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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

CYRIL ALLOUCHE

FR 000116

Serial No.

Group Art Unit

Filed: CONCURRENTLY

Ex.

Title: METHOD AND SYSTEM FOR TAG DETECTION AND TRACKING IN MRI  
TAGGED IMAGES

Commissioner for Patents  
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to calculation of the filing fee and examination, please  
amend the above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

4. (amended) An image processing method as claimed in claim 1,  
wherein the step of constructing a predicted image comprises sub-  
steps of :

choosing a given number of privileged points on tags of the  
preceding image of the sequence ;

calculating, from positions of said privileged points on, at  
least the preceding image of the sequence, a predicted position of  
said privileged points ; and

constructing predicted tags of the predicted image from  
predicted positions of said privileged points.

7. (amended) An image processing method as claimed in claim 4, wherein privileged points are intersections between tags obtained from an MRI image tagged in a grid pattern in two different directions or between tags obtained from two MRI images each tagged in a straight and parallel line pattern in one direction different from the tagging direction of the other, said two MRI images corresponding to a similar step of the sequence, said intersections being calculated based on the tag equations.

8. (amended) An image processing method of claim 1, to be applied to, at least, a sequence of MRI tagged images, to track tags on successive images of the sequence, comprising steps of :

initializing the processing method by implementing one of the methods of claim 1 for the first image of the sequence, using a first predicted image which represents the non-deformed modulation pattern ;

iteratively implementing the image processing method of claim 1 for the following images of the sequence.

9. (amended) A computer program product comprising a set of instructions for carrying out one of the methods as claimed in claim 1.

10. (amended) A system for processing images of a sequence of MRI tagged images, comprising :

means for detecting tag points of these images according to a method as claimed in claim 1;

*AL*  
means for displaying the results as a succession of images wherein tags are visible.

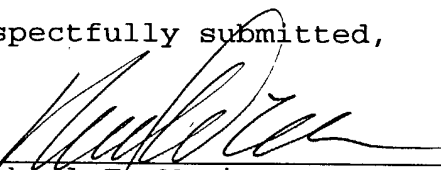
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REMARKS

The foregoing amendments to the claims were made solely to avoid filing the claims in the multiple dependent form so as to avoid the additional filing fee.

The claims were not amended in order to address issues of patentability and Applicant respectfully reserves all rights he may have under the Doctrine of Equivalents. Applicant furthermore reserves his right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or continuing applications.

Respectfully submitted,

By   
Michael E. Marion, Reg. 32,266  
Attorney  
(914) 333-9641

APPENDIX

4. (amended) An image processing method as claimed in ~~one of Claims 1 to 3~~claim 1, wherein the step of constructing a predicted image comprises sub-steps of :

choosing a given number of privileged points on tags of the preceding image of the sequence ;

calculating, from positions of said privileged points on, at least the preceding image of the sequence, a predicted position of said privileged points ; and

constructing predicted tags of the predicted image from predicted positions of said privileged points.

7. (amended) An image processing method as claimed in ~~one of Claims 4 to 6~~claim 4, wherein privileged points are intersections between tags obtained from an MRI image tagged in a grid pattern in two different directions or between tags obtained from two MRI images each tagged in a straight and parallel line pattern in one direction different from the tagging direction of the other, said two MRI images corresponding to a similar step of the sequence, said intersections being calculated based on the tag equations.

8. (amended) An image processing method of ~~one of Claims 1 to 7~~claim 1, to be applied to, at least, a sequence of MRI tagged images, to track tags on successive images of the sequence, comprising steps of :

initializing the processing method by implementing one of the methods of ~~Claims 1 to 7~~ claim 1 for the first image of the sequence, using a first predicted image which represents the non-deformed modulation pattern ;

iteratively implementing the image processing method of ~~one of the claims 1 to 7~~ claim 1 for the following images of the sequence.

9. (amended) A computer program product comprising a set of instructions for carrying out one of the methods as claimed in ~~Claims 1 to 8~~ claim 1.

10. (amended) A system for processing images of a sequence of MRI tagged images, comprising :

means for detecting tag points of these images according to a method as claimed in ~~one of Claims 1 to 8~~ claim 1;

means for displaying the results as a succession of images wherein tags are visible.